

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,068	10/21/2003	Roger Burrowes Bradford	SAIC0022-CON	2824

27510 7590 07/15/2004

KILPATRICK STOCKTON LLP
607 14TH STREET, N.W.
SUITE 900
WASHINGTON, DC 20005

EXAMINER

ALAM, SHAHID AL

ART UNIT	PAPER NUMBER
----------	--------------

2172

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/689,068

Applicant(s)

BRADFORD, ROGER BURROWES

Examiner

Shahid Al Alam

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 is/are allowed.
- 6) ☒ Claim(s) 9-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10212003</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Claims 8 – 11 are pending in this application.

Information Disclosure Statement

2. The reference cited in the information disclosure statement (IDS) have been considered by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,963,940 issued to Elizabeth Liddy et al. ("Liddy") and in view of U.S. Patent Number 5,519,608 issued to Julian Kupiec ("Kupiec").

With respect to claim 9, Liddy teaches indexing results of a document retrieval operation in to a latent semantic index vector space (column 10, lines 22 – 24 and column 16, lines 1 – 17);

receiving information regarding the relevancy, with respect to information needs, of a first subset of the results (. . . the term "document" should be taken to mean text, a unit of which is selected for analysis, and to include an entire document, or any portion thereof, such as a title, an abstract, or one or more clauses, sentences, or

Art Unit: 2172

paragraphs, . . .the term "query" should be taken to mean text that is input for the purpose of selecting a subset of documents from a document database (column 4, line 59 - column 5, line 3; ...,Relevance feedback is accomplished by combining the vectors of user-selected documents or document clusters with the original query vector to produce a new, "informed" query vector. The "informed" query vector will be matched against all document vectors in the corpus or those that have already passed the cut-off filter. Relevant documents will be re-ranked and re-clustered. . . ., Using the same similarity measures described above for matcher 55, the "informed" query vector is compared to the set of vectors of all documents above the cut-off criterion produced by the initial query (or for the whole corpus, as desired), then a revised query-to-document concept similarity score is produced for each document. These similarity scores are the system's revised estimation of a document's predicted relevance. The set of documents are thus re-ranked in order of decreasing similarity of each document's revised predicted relevance to the "formed" query on the basis of revised similarity value. column 26, lines 5 - 29);

ranking a second subset, nonexclusive of the first subset, of the results based on a current ranking strategy and modifying the current ranking strategy to incorporate at least one modification based at least in part on: location of the second subset in the

vector space, and a subset of the received relevancy information (The matching of documents to a query organizes documents by matching scores in a ranked list. The total number of presented documents can be selected by the user, the system can determine a number using the Recall Predictor (RP) function, or, in the absence of user input, the system will retrieve all documents with a non-zero score. Note that documents from different sources are interfiled and ranked in a single list (column 24, lines 56 – 63).

The "informed" query vector will be matched against all document vectors in the corpus or those that have already passed the cut-off filter. Relevant documents will be re-ranked and re-clustered (column 26, lines 9 – 12). Relevance feedback is accomplished by combining the vectors of user-selected documents or document clusters with the original query vector to produce a new, "informed" query vector...., the user is given the opportunity to determine whether the system's analysis of the query is satisfactory or needs modification., Once the documents have been retrieved and placed in folders, the user is given an opportunity to modify the retrieval/foldering criteria (300o) and document display criteria (300p). The user may then select documents (300q) for printing or downloading (300r), or for the purpose of refining the query (300s--see FIG. 19). If the user

Art Unit: 2172

has marked documents deemed by the user to be particularly relevant, the user can invoke the more-like-marked feature (300t), which causes the query representation to be modified in view of the documents and the refined query to be rerun. (column 26, lines 6 – 9 and column 28, lines 17 – 42);

ranking the second subset based on the modified ranking strategy; and determining which of: the ranking based on the current ranking strategy, and the ranking based on the modified ranking strategy better corresponds to the relevancy information (The matching of documents to a query organizes documents by matching scores in a ranked list. The total number of presented documents can be selected by the user, the system can determine a number using the Recall Predictor (RP) function, or, in the absence of user input, the system will retrieve all documents with a non-zero score. Note that documents from different sources are interfiled and ranked in a single list (column 24, lines 56 – 63). The "informed" query vector will be matched against all document vectors in the corpus or those that have already passed the cut-off filter. Relevant documents will be re-ranked and re-clustered (column 26, lines 9 – 12). Relevance feedback is accomplished by combining the vectors of user-selected documents or document clusters with the original query vector to produce a new, "informed" query vector...., the user is

given the opportunity to determine whether the system's analysis of the query is satisfactory or needs modification. ..., Once the documents have been retrieved and placed in folders, the user is given an opportunity to modify the retrieval/foldering criteria (300o) and document display criteria (300p). The user may then select documents (300q) for printing or downloading (300r), or for the purpose of refining the query (300s--see FIG. 19). If the user has marked documents deemed by the user to be particularly relevant, the user can invoke the more-like-marked feature (300t), which causes the query representation to be modified in view of the documents and the refined query to be rerun. (column 26, lines 6 – 29 and column 28, lines 17 – 42).

With respect to claim 9, Liddy does not explicitly teach a hypothesis for refining a strategy for ranking the results of a document as claimed.

Kupiec teaches claimed hypotheses (column 4, lines 36 – 37 and 54 – 58, column 10, lines 39 – 58; Kupiec).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Kupiec with Liddy to make the system more users friendly because Kupiec generate hypotheses without user aid (column 3, lines 44 – 46; Kupiec). Relieving user's from generating hypotheses makes the system more users friendly.

The subject matter of claims 10 and 11 are rejected in the analysis above in claim 9 and these claims are rejected on that basis.

Allowable Subject Matter

4. Claim 8 is allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

Regarding claim 8, Applicant's claimed invention of "... receiving information regarding the relevancy ... ranking the retrieved documents at least in part ... forming at least one candidate query ... analysis of locations of the retrieved documents in the latent semantic index vector space ... applying at least one candidate query ... ranking the documents retrieved in response to each applied candidate query ..." combined with "... comparing the ranking of documents ... choosing the query, from among the current query and each candidate query, which produces the best ranking." would not have been obvious over, nor would have been fairly suggested by the prior art of record.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shahid Al Alam whose telephone number is (703) 305-2358. The examiner can normally be reached on Monday-Thursday 8:00 A.M. - 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (703) 305-9790. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Shahid Al Alam
Primary Examiner
Art Unit 2172

10 July 2004